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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,455	01/21/2004	Derek J. Dennis	2004_0026	1388

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EXAMINER	
FLETCHER III, WILLIAM P	
ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 06/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/760,455	DENNIS ET AL.	
	Examiner	Art Unit	
	William P. Fletcher III	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the cross-reference to related application 10/622,189 should be updated to reflect that this application has been abandoned.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 1 appears to be a Jepson style claim according to 37 CFR 1.75(e). Based on a review of applicant's disclosure in the specification (see pages 1-2), the limitation "applying a...(meth)acrylated polyester powder" appears to be part of the improvement and should be recited only after the phrase "the improvement which comprises." Its inclusion in the preamble renders the claim indefinite because it is unclear whether or not application of a (meth)acrylated polyester powder is old or part of the presently claimed improvement.

For the purpose of reviewing and evaluating prior art, the examiner has construed application of a (meth)acrylated polyester powder as being part of the presently claimed improvement and not part of the preamble.

Claims 2-19 are also indefinite for this reason by virtue of their dependency on independent claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyde (US 5,565,246 A) in view of Moens et al. (WO 01/59021 A1).**

With respect to claim 1, Hyde teaches a process for forming a heat-resistant raised print comprising the following steps, performed in the order named:

(a) applying a wet inked print to a substrate;

(b) applying a radiation-curable, acrylated polymer powder composition to the wet inked print on the substrate such that the powder composition adheres to the wet inked print;

(c) heating the powder to melt temperature whereby the powder composition flows and fuses with the wet inked print to form a raised radiation-curable melt; and

(d) irradiating the raised, radiation-curable melt whereby the raised, radiation-curable melt polymerizes and forms a heat-resistant raised radiation-cured melt on the substrate (abstract, 2:37-50, 4:15-16, 8:16-26, and 12:34-48).

While Hyde teaches a variety of acrylated polymer powder compositions, this reference does not teach applicant's claimed (meth)acrylated polyester powder composition comprising oligomers.

Moens teaches a radiation-curable powder coating composition that is applied to a substrate, melted, and radiation-cured (2:32-33). The composition is a (meth)acrylated polyester powder comprising oligomers (3:7-15). The composition exhibits good flow properties and the cured composition has good hardness and outstanding solvent resistance (abstract and 2:34-38).

It would have been obvious to one of ordinary skill in the art to modify the method of Hyde so as to utilize, as the acrylated powder composition, the (meth)acrylated polyester powder composition of Moens. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of coating a powder composition having good flow properties, and a cured powder composition having good hardness and solvent resistance.

With respect to claims 2 and 3, both Hyde and Moens teach paper substrates (Hyde, 3:1-5 and Examples; Moens, 12:1-7). Hyde explicitly teaches letterhead stationary (3:3-5).

With respect to claim 4, Moens further teaches that the composition comprises 0-30 wt.-% (meth)acrylated epoxy oligomers and 10-90 wt.-% (meth)acrylated polyester oligomers (3:7-15).

With respect to claim 5, Moens further teaches that the composition comprises additives including photoinitiators, UV-absorbers, light-stabilizers, and fluidity-control agents (9:17-12:7).

With respect to claim 7, both Hyde and Moens teach curing with UV radiation (Hyde, 12:34-48; Moens, 9:17-23).

With respect to claims 8 and 9, as noted above, Moens teaches (meth)acrylated polyester and acrylated epoxy. The ranges cited above are inclusive of a ratio of 1:1. Moens further teaches that the composition contains semi-crystalline (meth)acrylated polyester (7:25-9:14).

7. **Claims 5 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Hyde 5,565,246 A) in view of Moens et al. (WO 01/59021 A1) as applied to claim 4 above, and further in view of Biller et al. (US 5,789,039 A).**

The combined teaching of Hyde and Moens is detailed above. While Hyde teaches that the compositions of that reference may contain plasticizers (5:42), Moens does not explicitly state that the compositions of that reference contain plasticizers.

Biller teaches that it is conventional to incorporate plasticizers into a powder coating compositions to lower the melting temperature thereof and improve the flowability (12:57-13:11).

It would have been obvious to one of ordinary skill in the art to modify the method of Hyde in view of Moens so as to incorporate into the powder coating composition a plasticizer. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of lowering the melting temperature of the powder and improving the flowability thereof.

With respect to claim 6, it is clear that the amount of plasticizer added to a powder coating composition is a result-effective variable. The amount must be sufficient to achieve the

desired melting temperature and flowability, while not becoming too costly or making the overly flowable. Consequently, absent clear and convincing evidence of unexpected results demonstrating the criticality of the claimed wt.-% range of plasticizer, it would have been obvious to one of ordinary skill in the art to optimize this result-effective variable by routine experimentation (see MPEP § 2144.05(II)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (571) 272-1419. The examiner can normally be reached on Monday through Friday, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WPF 6/17/2004
William P. Fletcher III
Examiner
Art Unit 1762

SHRIVE P. BECK
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